

Nature-Based Learning and Development: Science Ideas for Teachers

Narrator: When we think of science, we often think of nature. As teachers, we can use ideas from the natural world in so many ways to engage young children. We know children of all ages are curious. They want to know what things are. They want to know how things work. They also love to observe and investigate.

Girl: Big tree!

Teacher: Big tree? Get your leaves from your big tree, and let's collect them, and we're going to talk about the leaves that we find from the big trees.

Narrator: With science activities from nature, these teachers are helping young children gain the skills they need to be ready for kindergarten. Let's see how.

Teacher: Do you guys remember what we said that the pumpkin grew on yesterday? What did we agree?

Narrator: We'll see teachers who plan their science lessons as a sequence of activities with an overall theme.

Teacher: So tell me if this reminds you of a pumpkin.

Narrator: They considered, "What do I want the children to learn from this activity?" and, "How can this activity follow their interests?"

Teacher: I have five senses. I see with my...?

Children: Eyes!

Teacher: I smell with my...?

Children: Nose!

Narrator: You can help children experience the world through their senses.

Teacher: We're drawing a picture of the hermit crabs, all right, and how they eat their food. So we have to observe to see what they do first.

Boy: Flower.

Teacher: It smells like a flower to you?

Teacher: You guys will have to tell me. If it's raining too hard, we won't be able to play outside.

[The sound of thunder]

Teacher: Did you hear it? Thunder!

Teacher: Tell me how it tastes. I want to know if it's salty or sweet or sour.

Teacher: Feel that, mmm. You want a leaf? Feel that leaf. How does that feel?

Narrator: We all experience different kinds of weather.

Teacher: It's a cold day outside. Very cold. Brrr, cold!

Narrator: And when children are outside, they can learn in many ways. We can help them observe the changes in the seasons. What is different about a cool day in fall or a warm day when the sun comes out? You can help children keep a record of how the weather changes.

Teacher: Which weather have we had the most of?

Child: Rainy and cloudy.

Teacher: Rainy and...?

Child: Cloudy.

Teacher: Cloudy. Which one have we had the least of?

Child: Uh, snowy.

Narrator: They can learn about the water cycle, how the clouds bring rain or snow that seeps into the ground to nourish the plants and the water runs into lakes and rivers that flow to the ocean, and then the water evaporates to become clouds that bring rain or snow.

Teacher: But you might be slower than me if you're behind me! You know you're faster if you're ahead of me.

Narrator: You can help them explore physical science concepts like movement and sound, shadows, and friction. There are many ways to explore the life cycles in nature: by planting seeds, counting tree rings, or showing how caterpillars grow into butterflies. Nature is an excellent subject for teaching children about predictions. When do you think our garden will have its first vegetable? Which seeds do you think will sprout first? Do you think the magnet will stick to the tree, the fence? What will happen if you fill two balloons with a cup of water and freeze one of them? Will they look the same? Will they weigh the same amount? Older infants and toddlers love to learn about their world. They're beginning to discover that actions make things happen. What if we put sand on ice?

Teacher: Is it melting the ice like the salt did?

Child: No.

Teacher: No.

Narrator: What happens when we put different things into water?

Teacher: What do you want to try first? The ball. So do you think it's going to float on top of the water or sink below the water? Float.

Narrator: When you leave a yellow banana out, what does it look like after seven days?

Teacher: What color do you see on your banana?

Child: Yellow, lots of black.

Teacher: And then? And now are the same colors? No, okay, let's see what do you see now.

Narrator: We can provide children from infancy with opportunities to investigate through play and discover with their senses.

Boy: I cannot see any more sugar in my water.

Child: Me either!

Narrator: What does the sun do? Keep us warm, help the plants grow, give energy? Children are born with curiosity, a sense of wonder, and a desire to learn. It's easy to encourage science learning by helping children to ask questions, make predictions, explain their answers, and draw their own conclusions.

Teacher: Look, Adam. Are they the same?

Adam: No.

Teacher: What's different?

Narrator: With simple activities and materials that are easy to find...

Teacher: It looks like rain because we sprayed the cotton balls with water because the seeds need what to grow?

Child: Water!

Teacher: Water!

Narrator: We can help children learn about the natural world. We can show them new ways to understand.

[Music]

[End video]